

## **REMARKS**

Claims 1-17 are all the claims pending in the application.

Applicant notes that a number of editorial amendments have been made to the specification and abstract for grammatical and general readability purposes. Due to the number of changes made, a substitute specification and abstract are submitted herewith. No new matter has been added. Also enclosed is a marked-up copy of the original specification and abstract showing the changes incorporated into the substitute specification and abstract.

### **I. Claim Rejections under 35 U.S.C. § 112, second paragraph**

Claims 9 and 14 have been rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Applicant has amended claims 9 and 14 in a manner to address each of the Examiner's comments with respect to these claims. Accordingly, Applicant respectfully submits that claims 9 and 14 are now in compliance with 35 U.S.C. 112, second paragraph, and therefore kindly request that the rejection be reconsidered and withdrawn.

### **II. Objections to the Drawings**

The Examiner has objected to the drawings for the reasons set forth on pages 2-5 of the Office Action. In particular, the Examiner has indicated that certain features recited in the claims are not shown in the drawings, and that Figs. 10-12 should be labeled as --Prior Art--.

Regarding claims 4-7, 9 and 14, with respect to the language drawn to a circuit that connects two electrodes to earth when a signal is given or an event occurs, Applicant notes that the phrase "two electrodes" has been removed from the claims, and that the claims have been

clarified so as to indicate that the anode of the organic electro luminescence element is connected with the earth through a switching element. Applicant respectfully submits that such a feature is clearly depicted in the drawings (e.g., see Fig. 1).

Regarding claims 11 and 16, with respect to the feature of the current coming from the capacitive element, Applicant notes that claims 11 and 16 have been amended so as to indicate that the capacitive element accumulates an electric charge that is “supplied by a power supply terminal”. Applicant notes that such a feature is evident from at least the circuit diagram shown in Fig. 1 of the application.

Regarding Figs. 10-12, Applicant notes that replacement sheets are being submitted herewith which include the --Prior Art-- label, as requested by the Examiner.

In view of the foregoing, Applicant kindly requests that the objections to the drawings be reconsidered and withdrawn.

### **III. Claim Rejections under 35 U.S.C. § 103(a)**

Claims 1-17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen et al. (US 2003/0098829) in view of Wei et al. (US 5,723,950) and Ishizuka et al. (US 6,429,837).

Claim 1, as amended, recites the feature of a circuit for discharging a residual electric charge in the light emitting element after stopping the application of the DC forward voltage, and then feeding a reverse current to the light emitting element.

In the Office Action, the Examiner has relied on the Wei reference as allegedly disclosing the above-noted feature recited in claim 1 (e.g., see Office Action at page 6). Applicant respectfully disagrees.

In particular, regarding Wei, Applicants note that this reference discloses the use of a driver 10 for a light emitting device 11 (see Fig. 1 and col. 2, lines 58-62). As shown in Fig. 1 of Wei, the driver 10 includes a first transistor 20 and a second transistor 21, with the first transistor 20 being connected between a transistor 25 of a current supply 22 and the LED 11 so as to allow current to flow to the LED 11 when the first transistor 20 is ON and the second transistor 21 is OFF (see col. 4, lines 21-26).

As explained in Wei, in operation, a square wave is applied to a terminal 23 which turns transistor 20 ON, thereby connecting LED 11 to the transistor 25 of the current supply 22, and turns transistor 21 OFF, thereby removing the ground from LED 11 (see col. 4, lines 40-44). To complete the circuit of Wei, a transistor 30 is connected between a second terminal of the LED 11 and ground (see Fig. 1 and col. 4, lines 44-47).

As is evident from Figs. 1 and 2 of Wei, a current "I" in the form of a square wave 35 is applied to the LED 11 from time  $T_0$  to  $T_1$ , but due to the associated capacitance 12, most of the initial current flows into the associated capacitance 12 as a charging current and follows the current "I<sub>c</sub>" waveform 36 shown in Fig. 2 (see col. 4, lines 51-58). Thus, the actual current  $I_D$  that flows through the LED 11 follows a curve shown by the waveform 37 of Fig. 2 (see col. 4, lines 59-62).

Based on the foregoing description of Wei, Applicant notes that as is clearly evident from the waveforms shown in Fig. 2, after the application of the current I is stopped, a residual electric charge is not discharged from the LED 11 (e.g., see  $I_D$  waveform 37 of Fig. 2), and a reverse current is not fed to the LED 11 (e.g., see  $I_D$  waveform 37 of Fig. 2).

As such, Applicant respectfully submits that Wei does not disclose or suggest the above-noted feature of a circuit for discharging a residual electric charge in the light emitting element after stopping the application of the DC forward voltage, and then feeding a reverse current to the light emitting element, as recited in amended claim 1. Further, Applicant respectfully submits that Chen and Ishizuka do not cure this deficiency of Wei.

In view of the foregoing, Applicant respectfully submits that the cited prior art references do not disclose, suggest or otherwise render obvious at least the above-noted feature recited in amended claim 1. Accordingly, Applicant submits that claim 1 is patentable over the cited prior art, an indication of which is kindly requested. Claims 2-12 depend from claim 1 and are therefore considered patentable at least by virtue of their dependency.

In addition, regarding claim 5, Applicant note that this claim recites that the circuit connects the anode of the organic electro luminescence element with the earth through said switching element according to a signal for controlling the application of the DC forward voltage to the organic electro luminescence element.

With respect to such a feature, Applicant notes that in Wei, when transistor 21 is connected to the earth according to the signal from terminal 23, the source 26 is connected to ground, but the anode of the LED 11 is not connected to ground. Accordingly, Applicant

submits that Wei does not disclose or suggest the above-noted feature recited in claim 5. Further, Applicant submits that Chen and Ishizuka do not cure this deficiency of Wei.

Regarding claim 13, Applicant notes that this claim has been amended to recite that an anode of the organic electro luminescence element is connected with a connecting point of the first switching element and the second switching element, and a cathode is connected with the earth. Applicant respectfully submits that that cited prior art references do not disclose or suggest such a feature.

In particular, with respect to the cathode of the electro luminescence element being connected to earth, Applicant notes that in the Office Action, the Examiner has recognized that none of the cited prior art references disclose or suggest such a feature. The Examiner, however, has relied on *In re Karlson*, and has taken the position that it would have been obvious to modify Wei so as to remove the transistor 30 (see Fig. 1) because the omission of an element where the remaining elements perform the same function involves only routine skill in the art (e.g, see Office Action at page 13).

Regarding such a position, Applicant notes that while in *In re Karlson*, 311 F.2d 581, 584, 136 USPQ 184, 18 (CCPA 1963), the Court stated that “omission of an element and its function in a combination is an obvious expedient if the remaining elements perform the same functions as before”, Applicant submits that if the transistor 30 of Wei is removed, the remaining elements of Wei will not perform the same functions as before.

In particular, Applicant notes that the transistor 30 of Wei has a control terminal connected so as to receive a row logic signal thereon from an input terminal 31 when the row

containing LED 11 is being addressed, wherein when both the column and row logic signals are applied to terminals 23 and 31, respectively, a current “I” is applied to LED 11 (see col. 4, lines 44-52). Thus, because the column logic signal is applied to input terminal 23, and the row logic signal is applied to the input terminal 31 (which is connected to the transistor 30), Applicant notes that if the transistor 30 was removed, as suggested by the Examiner, the row logic signal from the input terminal 31 would not be received, and would prevent the circuit of Fig. 1 from performing the same functions as before.

Based on the foregoing, Applicant respectfully submits that the Examiner’s position that it would have been obvious to remove the transistor 30 is incorrect. If the Examiner believes that the remaining elements of Wei would perform the same functions as before if transistor 30 was removed, then Applicant requests the Examiner to explain with particularity, in view of the discussion above, how the remaining elements of Wei would perform the same functions as before.

In addition, Applicant notes that the Board of Appeals and Interferences has stated that “the language in [In re] Karlson was not intended to short circuit the determination of obviousness mandated by 35 U.S.C. 103” (*See Ex Parte Gerd Ohrnberger and Helmutdillig*, 1996 WL 1749366 (Bd.Pat.App. & Interf. 1996) (No. Appeal 96-3298)). In a similar manner, Applicant notes that the Court of Appeals for the Federal Circuit has expressly stated that all *per se* rules of obviousness are legally invalid and that the obviousness analysis must be based on the prior art:

The use of *per se* rules, while undoubtedly less laborious than a searching comparison of the claimed invention--including all its

limitations--with the teachings of the prior art, flouts section 103 and the fundamental case law applying it. Per se rules that eliminate the need for fact-specific analysis of claims and prior art may be administratively convenient for PTO examiners and the Board. Indeed, they have been sanctioned by the Board as well. But reliance on per se rules of obviousness is legally incorrect and must cease. Any such administrative convenience is simply inconsistent with section 103, which, according to Graham and its progeny, entitles an applicant to issuance of an otherwise proper patent unless the PTO establishes that the invention as claimed in the application is obvious over cited prior art, based on the specific comparison of that prior art with claim limitations. (Emphasis added)

*In re Ochiai*, 71 F.3d 1565, 1572, 37 U.S.P.Q.2D (BNA) 1127, 1134 (Fed. Cir. 1995).

In this regard, Applicants note that MPEP 2143 clearly explains that in view of the decision in *KSR International v Teleflex Inc.*, there must be a “clear articulation of the reason(s) why the claimed invention would have been obvious” (emphasis added). Further, MPEP 2143 also indicates that “rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness” (emphasis added).

In the present case, Applicant submits that the above-noted reliance on *In re Karlson* is not only incorrect (for the reasons discussed above) but is also not a clear articulation of the reason why one of ordinary skill in the art would have modified the Wei reference in the manner suggested by the Examiner, and is not an articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.

In view of the foregoing, Applicants respectfully submit that the cited prior art references do not disclose, suggest or otherwise render obvious the above-noted features of an anode of the organic electro luminescence element being connected with a connecting point of the first

switching element and the second switching element, and a cathode being connected with the earth, as recited in amended claim 13.

Accordingly, Applicants submit that amended claim 13 is patentable over the cited prior art, an indication of which is kindly requested. Claims 14-17 depend from claim 13 and are therefore considered patentable at least by virtue of their dependency.

#### **IV. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may best be resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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Attachments: Replacement Sheets (Figs. 10-12)  
Substitute Specification (Version with Markings)  
Substitute Specification (Clean Version)